

Remarks**Claim Rejections under 35 U.S.C. 112**

Applicants have amended claim 18 to incorporate limitations of claims 19-20 wherein the structures support how the detecting means receives signals from both the input and output ports. Removal of the rejection of claim 18 under 35 U.S.C. 112 is respectfully requested.

Claim Rejections under 35 U.S.C. 102

Claims 1, 5, 13 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Mao et al. (US 6,149,278). In response to these rejections, applicants have amended claims 1, 13 and 18, and canceled claim 19.

Regarding amended claims 1 and 13, the present invention discloses an optical attenuator comprising an input port, an output port and a movable reflector. The movable reflector receives signals output by the input port and reflects a portion of said signals into the output port. However, Mao's optical attenuator comprises a pair of substantially parallel mirrors to attenuate an optical signal between an input port and an output port. Therefore the optical attenuator of the present invention as recited in claims 1 and 13 is structurally simpler than and distinguished from that disclosed in Mao. Applicants assert that the structure of the present invention is quite different from that of Mao, and that claims 1 and 13 are novel over this reference.

Furthermore, applicants assert that the optical attenuator defined in claims 1 and 13 of the present invention is unobvious in view of Mao. Unlike the pair of substantially parallel mirrors included in Mao's optical attenuator, the optical attenuator of the present invention has only one movable reflector. This makes

the optical attenuator of the present invention simpler and easier to control. A person of ordinary skill in the art could not have derived from Mao the optical attenuator of the present invention. Thus claims 1 and 13 are unobvious over this reference.

In summary, it is submitted that independent claims 1 and 13 are patentable under 35 U.S.C. 102 and 103 over Mao. Therefore the corresponding dependent claims 5 and 17 should also be patentable.

Claim 18 defines the signals said detecting means receives from the input port, being reflected from the first port without involvement of any splitters. Differently, in Mao the signals the detecting means (130) receives from the input port (120) is transmitted (*rather than reflected*) from the first port with involvement of one splitter (instead of none). The instant invention essentially uses the different way to detect the signals from that of Mao. Accordingly, claim 18 as amended, is believed to patentably distinguish over Mao, and in condition for allowance.

Claim Rejections under 35 U.S.C. 103

Claims 2-4, 6-12, 14-16 and 20 are rejected as being unpatentable over Mao (US 6,149,278). In response to these rejections, applicants have amended claims 4, 7, 10, 12 and 14 and canceled claim 20 without prejudice.

Regarding amended independent claim 7, this recites the feature of a movable reflector. For reasons similar to those detailed above in relation to claims 1 and 13, it is submitted that said feature of claim 7 renders the claim unobvious and patentable under 35 U.S.C. 103 over Mao.

Claims 2, 8 and 16 are rejected as being unpatentable over Mao because, inter alia, Examiner takes Official notice that it would have been obvious to one having

ordinary skill in the art at the time the invention was made to use a filter as opposed to a beam splitter. Applicants traverse the Official notice as follows. When a beam of light signals with different wavelengths reaches a filter, one light signal with a certain wavelength passes through the filter and keeps on traveling forward along the original optical path, while the other light signals are reflected backward by the filter. However, when a beam of light signals reaches a beam splitter, the splitter divides the signals into many beams which all keep on traveling forward. Therefore in creating an optical attenuator, it would have been unobvious to one having ordinary skill in the art to use a filter as opposed to a beam splitter. Therefore claims 2, 8 and 16 are unobvious and patentable under 35 U.S.C. 103 over Mao.

Regarding amended claims 4 and 10, unlike in Mao, the optical attenuator of the present invention further comprises a second fiber for receiving a part of the input signals. The second fiber transmits the part of the input signals more safely and efficiently than a free space. It would have been unobvious to one having ordinary skill in the art at the time the invention was made to use an optical fiber instead of free space. Therefore claims 4 and 10 are unobvious and patentable under 35 U.S.C. 103 over Mao.

The optical attenuator of the present invention as defined by claim 7 comprises an input port for receiving input signals from an input fiber along the optical path and for reflecting part of the input signals to a first detecting means. For reasons similar to those detailed above in relation to claims 2, 8 and 16, it is submitted that claim 7 is unobvious and patentable under 35 U.S.C. 103 over Mao.

Furthermore, as detailed above, it is submitted that independent claims 1, 7 and 13 are patentable under 35 U.S.C. 103 over Mao. Accordingly, the corresponding dependent claims 2-4, 6, 8-12 and 14-16 should also be patentable.

Finally, the other references listed by Examiner in the Notice of References Cited also fail to disclose said unique features of the present invention as detailed

above. Therefore, a fortiori, claims 1-18 should be allowable.

In view of the above amendments and remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,

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